J. Helminthol. Soc. Wash.
65(2), 1998 p. 160–163

Neotropical Monogenoidea. 35. *Pavanelliella pavanellii*, a New Genus and Species (Dactylogyridae, Ancyrocephalinae) from the Nasal Cavities of Siluriform Fishes in Brazil

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ABSTRACT: *Pavanelliella*, a new monotypic genus, is proposed for accommodation of a species with the following features: presence of 2 bilateral pairs of cephalic lobes; a velumlike haptor armed with 14 ventral submarginal hooks evenly spaced along the posterolateral margins of the haptor; hook shank comprising 2 subunits; overlapping, intercecal gonads (testis dorsal); a sinistral vaginal aperture; and absence of a peduncle, haptoral anchors, bars, and 4A's. *Pavanelliella pavanellii* sp. n. is described from the nasal cavities of *Pseudoplatystoma corruscans* (Agassiz), Pimelodidae (type host), from the Rio Paraná drainage near the village of Porto Rico, Paraná, and from *Callophysus macropterus* (Lichtenstein), Pimelodidae, from Rio Solimões, Ilha da Marchantaria, near Manaus, Amazonas, Brazil.

KEY WORDS: Monogenoidea, Dactylogyridae, Ancyrocephalinae, *Pavanelliella* gen. n., *Pavanelliella pavanellii* sp. n., *Pseudoplatystoma corruscans*, *Callophysus macropterus*, Rio Paraná, Rio Solimões, Brazil.

Members of the Dactylogyridae are primarily parasites of the gills of marine and freshwater fishes. Some, however, occur in the nasal cavities of these hosts. In the neotropics, 1 species of *Rhinonastes* Kritsky, Thatcher and Boeger, 1988, 4 species of *Rhinoxenus* Kritsky, Boeger and Thatcher, 1988, and 2 species of *Telethecium* Kritsky, Van Every and Boeger, 1996, have been reported as parasites in the nasal cavities of freshwater fishes (Kritsky et al., 1988a, b, 1996; Boeger et al., 1995). Members of these genera display outstanding features (primarily of the haptor) that distinguish them from all other dactylogyrid genera. In the present paper, another new dactylogyrid genus, *Pavanelliella*, is proposed for parasites collected from the nasal cavities of siluriform fishes in the Rio Paraná and Rio Amazonas in Brazil. *Pavanelliella pavanellii* sp. n. is described.

Pseudoplatystoma corruscans (Agassiz) was collected by gill net from 2 locations in the Rio Paraná drainage near Porto Rico, Paraná, Brazil, during June 1996; *Callophysus macropterus* (Lichtenstein) was obtained by hook-and-line from the Rio Solimões, Ilha Marchantaria, near Manaus, Amazonas, Brazil, during September 1983. Methods of parasite collection from the hosts' nasal cavities and preparation of helminths for study, measurement, and drawing were those of Kritsky et al. (1988a). Measurements (in micrometers) include the average followed by the range and number of specimens measured in parentheses. Type specimens and vouchers are deposited in the collections of the Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil (INPA); the U.S. National Parasite Collection, Beltsville, Maryland (USNPC); and the University of Nebraska State Museum, Lincoln, Nebraska (HWML), as indicated in the description.

Class Monogenoidea Bychowsky, 1937
Order Dactylogyridea Bychowsky, 1937
Dactylogyridae Bychowsky, 1933
Ancyrocephalinae Bychowsky, 1937
Pavanelliella gen. n.

DIAGNOSIS: Body fusiform, comprising cephalic region, trunk, haptor; peduncle absent. Tegument thin, smooth. Cephalic region with 2 pairs of bilateral cephalic lobes, each lobe with head organ; additional bilateral pair of head organs between cephalic lobes. Cephalic glands present. Eyes 4; granules elongate ovate. Mouth midventral; pharynx muscular, glandular; esophagus present; intestinal ceca (2) confluent in posterior trunk, lacking diverticula. Gonads over-

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lapping, intercecal; testis dorsal to germarium. Genital pore midventral in anterior trunk. Vas deferens looping left intestinal cecum; seminal vesicle a dilation of vas deferens; 1 prostatic reservoir. Male copulatory organ consisting of sclerotized coiled tube with counterclockwise rings (Kritsky et al., 1985); accessory piece free from base of male copulatory organ. Vaginal aperture sinistral; seminal receptacle immediately anterior to germarium; uterus ventral along midline. Vitellaria coextensive with gut. Haptor a velumlike extension of posterolateral, posterior margins of trunk; armed with 14 evenly spaced, submarginal hooks. Hooks similar, ventral; each with shank comprising 2 subunits; proximal subunit expanded. Anchors, bars, 4A's absent. Parasites in nasal cavities of Neotropical siluriform fishes.

TYPE AND ONLY SPECIES: *Pavanelliella pavanellii* sp. n. from *Pseudoplatystoma corruscans,* Pimelodidae (type host), and *Callophysus macropterus,* Pimelodidae.

ETYMOLOGY: The generic epithet and specific name of the type species are proposed in honor of Dr. G. C. Pavanelli, Universidade Estadual de Maringá, NUPELIA, Maringá, Paraná, Brazil, in recognition of his work on parasites of fish from the Rio Paraná and in sincere gratitude for hospitality and for arranging the collection of hosts from the research field station at Porto Rico, Paraná, during a visit of the senior author to southern Brazil.

Pavanelliella pavanellii sp. n. (Figs. 1–4)

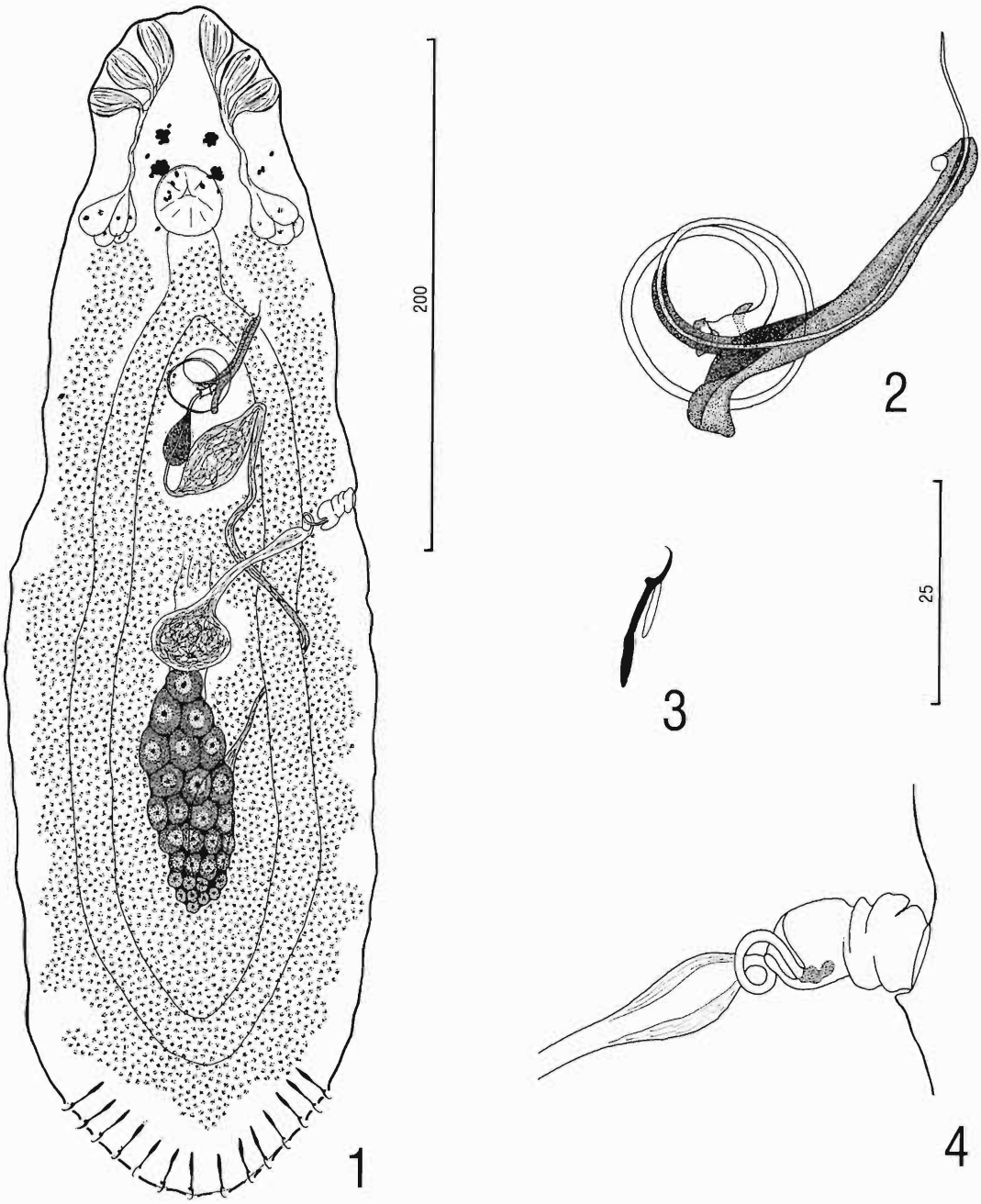
DESCRIPTION: Body 424 (306–514; n = 22) long, fusiform, somewhat flattened dorsoventrally, tapering in anterior trunk; greatest width 124 (82–162; n = 21) in posterior trunk. Cephalic lobes moderately developed. Eyes subequal, equidistant; accessory granules in cephalic, anterior trunk regions. Pharynx spherical, 24 (19–28; n = 22) in diameter; esophagus moderately long. Haptor delicate, a narrow U-shaped velum surrounding posterolateral, posterior margins of trunk; velum 19 (15–20; n = 18) wide at posterior extremity. Hook 18 (17–19; n = 25) long, with truncate protruding thumb, delicate point; FH loop reaching union of shank subunits. Male copulatory organ a coil of about 2 rings, base with proximal and distal sclerotized margins; male copulatory organ 161 (140–175; n = 7) long, ring diameter 24 (21–28; n = 30). Accessory piece 44 (35–52; n = 15) long, comprising sheath enclosing distal portion of shaft of male copulatory organ, subproximal lobe. Testis 53–54 (n = 2) long, 22–24 (n = 2) wide, elongate ovate; seminal vesicle sigmoid, lying to left of midline in anterior trunk; prostatic reservoir saccate. Germarium with irregular margin, elongate ovate, 67 (46–78; n = 5) long, 31 (22–36; n = 5) wide; oviduct, ootype not observed; uterus delicate. Vagina with weakly sclerotized distal vestibule, narrow coiled canal widening internally to thick-walled tube opening into medial seminal receptacle; vitellaria dense, absent in regions of reproductive organs.

HOSTS AND LOCALITIES: Nasal cavities of *Pseudoplatystoma corruscans* (type host); (53°17′W, 22°43′S) Rio Baia, near the village of Guaraná, Mato Grosso do Sul and its confluence with the Rio Paraná (type locality) (18 August 1996) and (53°13′W, 22°44′S) Rio Paraná near the village of Porto Rico, Paraná (19 August 1996), Brazil. Nasal cavities of *Callophysus macropterus*; (59°55′W, 03°09′S) Rio Solimões, Ilha da Marchantaria, near Manaus, Amazonas, Brazil (21 September 1983).

SPECIMENS STUDIED: Holotype, INPA PLH 365; 35 paratypes from *P. corruscans,* INPA PLH 366a-1, USNPC 87646, 87647, HWML 39699; 4 vouchers from *C. macropterus,* USNPC 87648.

Discussion

Pavanelliella gen. n. is monotypic. Characters defining the genus suggest a relationship with *Telethecium* Kritsky, Van Every and Boeger, 1996 (members parasitic in nasal cavities of freshwater Osteoglossidae and Clupeidae), and *Kritskyia* Kohn, 1990 (members parasitic in the urinary bladder and ureters of Siluriformes). Members of the 3 genera share the presence of 14 haptoral hooks, a coiled male copulatory organ with counterclockwise rings, a sinistral vaginal aperture, and absence of haptoral anchors, bars, and 4A's. *Pavanelliella* further resembles *Telethecium* by having overlapping gonads (testis dorsal to germarium); it differs from *Telethecium* by 1) lacking a ventral bag containing the copulatory complex, 2) lacking a body peduncle, 3) having hooks all marginal in the haptor (12 marginal, 2 subcentral in *Telethecium* spp.), 4) having a velumlike haptor (globose in *Telethecium* spp.), 5) having cephalic lobes, and 6) having a nonarticulated male copulatory or-



Figures 1–4. ***Pavanelliella pavanellii*** **gen. et sp. n. 1. Whole mount (composite, ventral view). 2. Copulatory complex (ventral view). 3. Hook. 4. Vagina. Figure 1 is drawn to the 200-μm scale; figures 2–4 are drawn to the 25-μm scale.**

gan and accessory piece (male copulatory organ and accessory piece basally articulated in *Telethecium* spp.; see Kritsky et al., 1996).

Pavanelliella resembles *Kritskyia* by possessing a nonarticulated male copulatory organ and accessory piece, absence of a ventral bag for the copulatory complex, and presence of 14 hooks all marginal in the haptor. It differs from *Kritskyia* by having 1) well-developed cephalic lobes, 2) overlapping gonads (tandem in *Kritskyia*), and 3) a velum-shaped haptor (cup-shaped but lacking an anterior rim in *Kritskyia* spp.) and 4) by lacking a body peduncle (see Kohn, 1990; Kritsky et al., 1996).

Other genera with species from the nasal cavities of Neotropical fishes include *Rhinoxenus* Kritsky, Boeger and Thatcher, 1988, and *Rhinonastes* Kritsky, Thatcher and Boeger, 1988. Members of these genera possess haptoral anchors and bars, which, among other characters, exclude them from *Pavanelliella* (see Kritsky et al., 1988a, b).

Acknowledgments

We wish to express our sincere gratitude to Dr. Gilberto C. Pavanelli (Departamento de Biologia [NUPELIA], Universidade Estadual de Maringá, Paraná) and students, Marilia de Carvalho Brasil, Rosilene Luciana Delariva, Marion H. Machado, Ricardo M. Takemoto, and Marcus V. Domingues, for their hospitality during a visit of the senior author to the research station at Porto Rico and to the Universidade Estadual de Maringá, Paraná. Financial and/or laboratory support was provided by the Conselho National de Desenvolvimento Científico e Tecnológico (CNPq) and the Universidade Federal do Paraná, Curitiba, Brazil.

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